

Memorial for his excellency general Washington

22 January 1798

If fortification is necessary in any Armies, it is particularly so in those which like ours, from a deficiency in the practice of manœuvres cannot oppose any to those of the enemy being necessitated therefore to receive him on their own ground, they ought always to be protected either by a natural or artificial fortification; if it were only to have (under favour of the resistance of this fortification) sufficient time to ascertain the result of the enemy's movement where his principal force is directed and where greatest effort is to be made with respect to natural fortification, all situations do not afford it, and to rely intively upon it, would involve prodigious constraint in the choice of positions, and exclude many excellent ones considered relatively to the operations of war it is therefore much more advantageous to have recourse to artificial fortification which is applicable in all situations.

The very great difficulties which I experienced in the last Campaign, both in setting on foot the most simple work and having it executed with the necessary conditions, induce me to propose to his Excellency an establishment which is absolutely indispensable, if he chooses to derive hereafter those succours from fortifications which it holds out to him.

I would desire to have three companies of sappers formed, they should be instructed in every thing that relates to the construction of field works. how to dispose of the earth to cut the slopes. face with turf or logs made fascines,

arrange them properly - cut and fix palisades &c.

The Sappers should be distributed in the different works, and a sufficient number of fatigue men drawn from the line should be joined to them to work under their direction, by which means, the works would be executed with a perfection and celerity which otherwise will ever be unknown in this army. It is, I believe, altogether useless to enlarge upon a matter so obvious - I proceed therefore immediately to the principal positions on which this corps should be formed.

- 1st The pay ought to be greater than that of the ordinary foot Soldier, because the service is exceedingly hard - this is the practice in Europe, and they receive besides extraordinary pay, when they work - choice ought to be made of vigorous Soldiers and the preference should be given to carpenters and masons.
2. The non-commissioned officers ought all to read and write, and be intelligent persons of good character.
3. The Companies of Sappers ought to be altogether under the command of the Head Engineer - for if the Major Generals had a right to employ them as they please, each from a desire of fortifying his camp in his own way, would ask for Sappers and they would all be taken from the Engineers.
4. Besides as such partial works do not enter into the general plan of the position, they are for the most part useless.

it concurred and sometimes even dangerous.

4. The captain of Sappers will be charged with the detail of their companies and each of them will be accountable to the commanding officer of the Engineers, in order that he may always know the state of the companies, their strength &c.
5. Each company should always have its tools with it, carried in a wagon provided for the purpose - the company should be answerable for all tools lost - and in case any should be broke, the prices are to be produced to the officer to whom the detail of the company is committed.

The camp of the Sappers to be assigned by the commanding officer of Engineers adjacent to the places where they are to be employed.

Of the officers.

If it is important to choose the privates in these companies it is much more so to choose the officers - The General ought, in my opinion, to think of forming Engineers in this country to replace us when we shall be called home.

The companies of Sappers now proposed might serve as a School to them - they might there acquire at once the practical part of the construction of works and if choice be made of young men well bred, intelligent and fond of instruction, we shall take pleasure in giving them principles upon the choice of situations, and the method of adapting works to the ground.

If his Excellency approves my plan, I would advise the

speedy execution of it in order that the companies may
 have served their apprenticeship before the opening of the
 campaign.

These companies ought not to be composed of recruits
 but soldiers answering the description above should be
 taken from the line for the purpose.

When the companies of sappers were raised, particular
 rules will be given to them for their service.

Brigadier General D'Arpente
 Commanding engineers

Mordaunt
 dated camp 10 April 1778